

Message

---

**From:** Judge, Robert [Judge.Robert@epa.gov]  
**Sent:** 4/24/2017 9:20:55 PM  
**To:** Hall, Chris [Hall.Christopher@epa.gov]; Papp, Michael [Papp.Michael@epa.gov]; Weinstock, Lewis [Weinstock.Lewis@epa.gov]  
**CC:** Payton, Richard [Payton.Richard@epa.gov]; Brown, Ethan [Brown.Ethan@epa.gov]; Wells, Benjamin [Wells.Benjamin@epa.gov]; Naess, Liz [Naess.Liz@epa.gov]; Rice, Joann [Rice.Joann@epa.gov]; Lau, Gavin [Lau.Gavin@epa.gov]; Sather, Mark [sather.mark@epa.gov]; Curran, Trisha [Curran.Trisha@epa.gov]; Williams, Jennifer [Williams.Jennifer@epa.gov]; CHANG, RANDALL [Chang.Randall@epa.gov]; Vallano, Dena [Vallano.Dena@epa.gov]; Mebust, Anna [Mebust.Anna@epa.gov]; Kurpius, Meredith [Kurpius.Meredith@epa.gov]; Skinner-Thompson, Jonathan [Skinner-Thompson.Jonathan@epa.gov]; Plate, Mathew [Plate.Mathew@epa.gov]; YOSHIMURA, GWEN [Yoshimura.Gwen@epa.gov]; Flagg, MichaelA [Flagg.MichaelA@epa.gov]; Verhalen, Frances [verhalen.frances@epa.gov]; Khan, Mazeeda [Khan.Mazeeda@epa.gov]; Chow, Alice [chow.alice@epa.gov]; Rinck, Todd [Rinck.Todd@epa.gov]; Compner, Michael [compner.michael@epa.gov]; Davis, Michael [Davis.Michael@epa.gov]; Fallon, Gail [fallon.gail@epa.gov]; Kahn, Peter R. [kahn.peter@epa.gov]  
**Subject:** RE: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues-

*This language from Mike Papp below is from a QA call that all Regions participated in on March 8 (I acknowledge that was a somewhat spirited discussion ☺)*

“Obviously the memo provides our opinion on this subject. And before we get started I’ll just make a few points

- How the validation template reads (invalidation of data failing zero/span/1-point QC) is the way that 1-point QC and zero/span have been implemented for over 25 years. This is nothing new.
- The Redbook has listed Zero/ Span/ 1-point QC checks as critical with consistent language on what to do with failure of critical criteria since 2008.
- Ozone analyzers are stable and accurate and there should be no problem meeting the 7% criteria particularly at the concentrations most are using. Some of the Regions have also mentioned this in their email messages (following).
- We believe the QAPP is a contract between the regions and the monitoring orgs and establishes the monitoring organization commitment to follow the QAPP. If the monitoring organizations QAPP states they follow the language in the validation templates then that should be followed.”

This (arguably) 7.5% P/F guidance for p-checks for ozone is something that the QA workgroup (which included State and local input) has had in the QA handbook since 2008. I recognize that some individual QAPPs may have been missed, but wouldn’t this have been expected to be done by all States.

In looking at the data here, for 90% of these fails identified by OAQPS, States/ locals were using p-check values of 65 ppb or greater. A “fail” of 7.5% means about a 5 ppb difference. That’s significant! (Remember, CFR at the time suggested using a p-check value near mean/ median)

I’m all about figuring out a way to make this as easy as possible for Regions/ States, but this presumption of data invalidation is something that I thought was “agreed” to.

Thanks

---

**From:** Hall, Chris  
**Sent:** Monday, April 24, 2017 1:28 PM  
**To:** Papp, Michael <Papp.Michael@epa.gov>; Weinstock, Lewis <Weinstock.Lewis@epa.gov>  
**Cc:** Payton, Richard <Payton.Richard@epa.gov>; Brown, Ethan <Brown.Ethan@epa.gov>; Wells, Benjamin <Wells.Benjamin@epa.gov>; Naess, Liz <Naess.Liz@epa.gov>; Rice, Joann <Rice.Joann@epa.gov>; Lau, Gavin <Lau.Gavin@epa.gov>; Sather, Mark <sather.mark@epa.gov>; Curran, Trisha <Curran.Trisha@epa.gov>; Williams, Jennifer <Williams.Jennifer@epa.gov>; CHANG, RANDALL <Chang.Randall@epa.gov>; Vallano, Dena

<Vallano.Dena@epa.gov>; Mebust, Anna <Mebust.Anna@epa.gov>; Kurpius, Meredith <Kurpius.Meredith@epa.gov>; Skinner-Thompson, Jonathan <Skinner-Thompson.Jonathan@epa.gov>; Plate, Mathew <Plate.Mathew@epa.gov>; YOSHIMURA, GWEN <Yoshimura.Gwen@epa.gov>; Flagg, MichaelA <Flagg.MichaelA@epa.gov>; Verhalen, Frances <verhalen.frances@epa.gov>; Judge, Robert <Judge.Robert@epa.gov>; Khan, Mazeeda <Khan.Mazeeda@epa.gov>; Chow, Alice <chow.alice@epa.gov>; Rinck, Todd <Rinck.Todd@epa.gov>; Compther, Michael <compther.michael@epa.gov>; Davis, Michael <Davis.Michael@epa.gov>; Fallon, Gail <fallon.gail@epa.gov>  
**Subject:** RE: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues-

Mike/Lew,

I would like to echo the concerns and comments from both Michael and Gwen in R9. Though I do like the idea of monitoring agencies providing brief documentation in AQS for data which is tied to a failing QC check but which the monitoring agency believes should still be kept, I agree with Gwen that it would be more appropriate and less burdensome to have steps 3 and 4 tied to the annual data certification process rather than it be a separate stand-alone process. We are performing QC review and approving data on a monitor-by-monitor basis every May and this can easily be folded into the process (if it is not already inherent to it now).

And as with Michael/R9 I am not comfortable with enforcing guidance unless it has been incorporated into a monitoring agencies QAPP and/or SOPs.

Chris

---

**From:** YOSHIMURA, GWEN

**Sent:** Friday, April 21, 2017 1:44 PM

**To:** Flagg, MichaelA <Flagg.MichaelA@epa.gov>; Verhalen, Frances <verhalen.frances@epa.gov>; Papp, Michael <Papp.Michael@epa.gov>; Weinstock, Lewis <Weinstock.Lewis@epa.gov>; Judge, Robert <Judge.Robert@epa.gov>; Khan, Mazeeda <Khan.Mazeeda@epa.gov>; Chow, Alice <chow.alice@epa.gov>; Rinck, Todd <Rinck.Todd@epa.gov>; Compther, Michael <compther.michael@epa.gov>; Davis, Michael <Davis.Michael@epa.gov>; Fallon, Gail <fallon.gail@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>

**Cc:** Payton, Richard <Payton.Richard@epa.gov>; Brown, Ethan <Brown.Ethan@epa.gov>; Wells, Benjamin <Wells.Benjamin@epa.gov>; Naess, Liz <Naess.Liz@epa.gov>; Rice, Joann <Rice.Joann@epa.gov>; Lau, Gavin <Lau.Gavin@epa.gov>; Sather, Mark <sather.mark@epa.gov>; Curran, Trisha <Curran.Trisha@epa.gov>; Williams, Jennifer <Williams.Jennifer@epa.gov>; CHANG, RANDALL <Chang.Randall@epa.gov>; Vallano, Dena <Vallano.Dena@epa.gov>; Mebust, Anna <Mebust.Anna@epa.gov>; Kurpius, Meredith <Kurpius.Meredith@epa.gov>; Skinner-Thompson, Jonathan <Skinner-Thompson.Jonathan@epa.gov>; Plate, Mathew <Plate.Mathew@epa.gov>

**Subject:** RE: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues-

To just add briefly to Michael's comments –

I think most of our agencies really appreciate AQS flagging guidance, so we might get a very positive response to having steps 1 and 2 as recommendations. Allowing states the opportunity to comment and discuss process/timing seems important as well, as Michael suggests.

Step 3 seems more appropriately handled outside of AQS (for example, seems appropriate for any such flags to be discussed in the annual data certification letter). Step 4 also seems like it is already inherently a part of data certification and that a separate EPA regional concurrence is unnecessary (a resource burden for us, and something the states may take issue with).

Thanks,  
Gwen

---

Gwen M. Yoshimura  
Air Quality Analysis Office  
Environmental Protection Agency, Region 9  
Phone: 415.947.4134  
Email: [yoshimura.gwen@epa.gov](mailto:yoshimura.gwen@epa.gov)

mailing address:

U.S. Environmental Protection Agency  
Air Quality Analysis Office (AIR-7)  
75 Hawthorne Street  
San Francisco, CA 94105

---

**From:** Flagg, MichaelA

**Sent:** Friday, April 21, 2017 1:01 PM

**To:** Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>; Papp, Michael <[Papp.Michael@epa.gov](mailto:Papp.Michael@epa.gov)>; Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>; Judge, Robert <[Judge.Robert@epa.gov](mailto:Judge.Robert@epa.gov)>; Khan, Mazeeda <[Khan.Mazeeda@epa.gov](mailto:Khan.Mazeeda@epa.gov)>; Chow, Alice <[chow.alice@epa.gov](mailto:chow.alice@epa.gov)>; Rinck, Todd <[Rinck.Todd@epa.gov](mailto:Rinck.Todd@epa.gov)>; Compner, Michael <[compner.michael@epa.gov](mailto:compner.michael@epa.gov)>; Davis, Michael <[Davis.Michael@epa.gov](mailto:Davis.Michael@epa.gov)>; Fallon, Gail <[fallon.gail@epa.gov](mailto:fallon.gail@epa.gov)>; Hall, Chris <[Hall.Christopher@epa.gov](mailto:Hall.Christopher@epa.gov)>

**Cc:** Payton, Richard <[Payton.Richard@epa.gov](mailto:Payton.Richard@epa.gov)>; Brown, Ethan <[Brown.Ethan@epa.gov](mailto:Brown.Ethan@epa.gov)>; Wells, Benjamin <[Wells.Benjamin@epa.gov](mailto:Wells.Benjamin@epa.gov)>; Naess, Liz <[Naess.Liz@epa.gov](mailto:Naess.Liz@epa.gov)>; Rice, Joann <[Rice.Joann@epa.gov](mailto:Rice.Joann@epa.gov)>; Lau, Gavin <[Lau.Gavin@epa.gov](mailto:Lau.Gavin@epa.gov)>; Sather, Mark <[sather.mark@epa.gov](mailto:sather.mark@epa.gov)>; Curran, Trisha <[Curran.Trisha@epa.gov](mailto:Curran.Trisha@epa.gov)>; YOSHIMURA, GWEN <[Yoshimura.Gwen@epa.gov](mailto:Yoshimura.Gwen@epa.gov)>; Williams, Jennifer <[Williams.Jennifer@epa.gov](mailto:Williams.Jennifer@epa.gov)>; CHANG, RANDALL <[Chang.Randall@epa.gov](mailto:Chang.Randall@epa.gov)>; Vallano, Dena <[Vallano.Dena@epa.gov](mailto:Vallano.Dena@epa.gov)>; Mebust, Anna <[Mebust.Anna@epa.gov](mailto:Mebust.Anna@epa.gov)>; Kurpius, Meredith <[Kurpius.Meredith@epa.gov](mailto:Kurpius.Meredith@epa.gov)>; Skinner-Thompson, Jonathan <[Skinner-Thompson.Jonathan@epa.gov](mailto:Skinner-Thompson.Jonathan@epa.gov)>; Plate, Mathew <[Plate.Mathew@epa.gov](mailto:Plate.Mathew@epa.gov)>

**Subject:** RE: URGENT ACTION – Invalidity of Ozone data in AQS due to QC issues-

Mike – a few concerns some process questions.

I think we echo the workload concern expressed by R6 and have issues with steps 3 and 4.

Generally, I think we agree that keeping in the “failed” checks and flagging the data in some way is a good **recommendation**, but using these flags and EPA concurrence to dictate whether a dataset is “valid for regulatory use” fundamentally changes the way our states validate data and alters EPA’s role in the data collection process and how we judge whether data is acceptable for regulatory use.

Again, the concern is that these decisions are driven by guidance and not grounded in regulation. A single failed check does NOT mean the data are “bad” or can’t be used for NAAQS decisions... this is firmly grounded in the CFR. This process implies that if data not meeting guidance criteria are not flagged in AQS appropriately and not concurred on by EPA, the data can’t be used? This oddly shifts the decision to use or not use data to whether or not a procedural (non-technical) recommendation has been met.

Also, this is an extremely slippery slope that suggests data validation should now be handled in AQS to accommodate concerns about not meeting criteria in EPA guidance documents. Also by moving “final” validation or concurrence to EPA reverses long standing roles on who is responsible for the quality of the data. EPA is not well positioned to judge the validity of the data on a description in AQS (or otherwise). This is exactly why the states are responsible for validation, have a QA system, or a QA officer.

On a high level, shifting ultimate decision making to AQS/EPA for ALL 1-point check validity has the potential to undermine the entire QA system.

We already have CFR requirements for appropriate oversight mechanisms (ANPs, QAPPs, and TSAs) used to determine whether agencies are meeting CFR requirements and following EPA guidance. This seems to be adding unnecessary and burdensome steps to the state's and EPA's responsibilities.

Final process question. I imagine our states would like a chance to comment on this, as it has policy, process, and workload implications for them...

Is there a plan to share this in draft form with the states?

---

**From:** Verhalen, Frances

**Sent:** Friday, April 21, 2017 12:03 PM

**To:** Papp, Michael <[Papp.Michael@epa.gov](mailto:Papp.Michael@epa.gov)>; Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>; Judge, Robert <[Judge.Robert@epa.gov](mailto:Judge.Robert@epa.gov)>; Khan, Mazeeda <[Khan.Mazeeda@epa.gov](mailto:Khan.Mazeeda@epa.gov)>; Chow, Alice <[chow.alice@epa.gov](mailto:chow.alice@epa.gov)>; Rinck, Todd <[Rinck.Todd@epa.gov](mailto:Rinck.Todd@epa.gov)>; Compher, Michael <[compher.michael@epa.gov](mailto:compher.michael@epa.gov)>; Davis, Michael <[Davis.Michael@epa.gov](mailto:Davis.Michael@epa.gov)>; Fallon, Gail <[fallon.gail@epa.gov](mailto:fallon.gail@epa.gov)>; Flagg, MichaelA <[Flagg.MichaelA@epa.gov](mailto:Flagg.MichaelA@epa.gov)>; Hall, Chris <[Hall.Christopher@epa.gov](mailto:Hall.Christopher@epa.gov)>  
**Cc:** Payton, Richard <[Payton.Richard@epa.gov](mailto:Payton.Richard@epa.gov)>; Brown, Ethan <[Brown.Ethan@epa.gov](mailto:Brown.Ethan@epa.gov)>; Wells, Benjamin <[Wells.Benjamin@epa.gov](mailto:Wells.Benjamin@epa.gov)>; Naess, Liz <[Naess.Liz@epa.gov](mailto:Naess.Liz@epa.gov)>; Rice, Joann <[Rice.Joann@epa.gov](mailto:Rice.Joann@epa.gov)>; Lau, Gavin <[Lau.Gavin@epa.gov](mailto:Lau.Gavin@epa.gov)>; Sather, Mark <[sather.mark@epa.gov](mailto:sather.mark@epa.gov)>; Curran, Trisha <[Curran.Trisha@epa.gov](mailto:Curran.Trisha@epa.gov)>  
**Subject:** RE: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues-

Mike, the memo looks good.

R6 has one concern for item #4 in that we anticipate an added workload for regional staff on the concurrence flagging for the 1/V flags.

Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)

---

**From:** Papp, Michael

**Sent:** Friday, April 21, 2017 12:17 PM

**To:** Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>; Judge, Robert <[Judge.Robert@epa.gov](mailto:Judge.Robert@epa.gov)>; Khan, Mazeeda <[Khan.Mazeeda@epa.gov](mailto:Khan.Mazeeda@epa.gov)>; Chow, Alice <[chow.alice@epa.gov](mailto:chow.alice@epa.gov)>; Rinck, Todd <[Rinck.Todd@epa.gov](mailto:Rinck.Todd@epa.gov)>; Compher, Michael <[compher.michael@epa.gov](mailto:compher.michael@epa.gov)>; Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>; Davis, Michael <[Davis.Michael@epa.gov](mailto:Davis.Michael@epa.gov)>; Fallon, Gail <[fallon.gail@epa.gov](mailto:fallon.gail@epa.gov)>; Flagg, MichaelA <[Flagg.MichaelA@epa.gov](mailto:Flagg.MichaelA@epa.gov)>; Hall, Chris <[Hall.Christopher@epa.gov](mailto:Hall.Christopher@epa.gov)>  
**Cc:** Payton, Richard <[Payton.Richard@epa.gov](mailto:Payton.Richard@epa.gov)>; Brown, Ethan <[Brown.Ethan@epa.gov](mailto:Brown.Ethan@epa.gov)>; Wells, Benjamin <[Wells.Benjamin@epa.gov](mailto:Wells.Benjamin@epa.gov)>; Naess, Liz <[Naess.Liz@epa.gov](mailto:Naess.Liz@epa.gov)>; Rice, Joann <[Rice.Joann@epa.gov](mailto:Rice.Joann@epa.gov)>; Lau, Gavin <[Lau.Gavin@epa.gov](mailto:Lau.Gavin@epa.gov)>; Sather, Mark <[sather.mark@epa.gov](mailto:sather.mark@epa.gov)>  
**Subject:** RE: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues-

Yesterday Lew Weinstock, Liz Naess and I presented the OIG issues on the NACAA call. We had some push back on the call but I thought Lew did a great job of making the monitoring organizations understand the issue. During the call there was a discussion of how to validate some data in which a check failed but the monitoring organization went out and did some "as is" QC check or multi-point verification which proved that

the analyzer was operating properly. I mentioned on the call that I had started developing a flagging technique that I initially thought would be something that we would start implementing after we got through this current validation process but it sounded like it might be helpful now for those that might want to use it. The document is attached.

The difference in this procedure is now it seems prudent to allow failed 1-point QC checks to be reported to AQS. This is reversal on my past position that the checks should not be included if the data is also invalidated but we can make AQS disregard these points for assessments with the correct flagging technique while still reporting them.

Please let me know what you think about the approach. I ran this past Robert Coats and it's doable. I think minimally if some Regions felt they could use it, the data flagged as "V1" by the monitoring orgs would have to have compelling reason documented and concurred with by the Region through either an email or formal memo back to the Regions and archived here. Region 6 received a formal letter by ODEQ which showed what data they would invalidate and where they had a compelling reason to keep the data. Until we had the full system in AQS working, where you could concur with the AQS data, this would seem acceptable to us.

We may want to have a quick call conference call with the Regions on this technique.

**Please send any comment to Lew and I ASAP.** If we find this acceptable we could get this out to the monitoring orgs ASAP since they were interested in seeing it.

Thanks and have a good weekend

-----Original Message-----

From: Weinstock, Lewis

Sent: Thursday, April 13, 2017 8:44 AM

To: Judge, Robert <[Judge.Robert@epa.gov](mailto:Judge.Robert@epa.gov)>; Khan, Mazeeda <[Khan.Mazeeda@epa.gov](mailto:Khan.Mazeeda@epa.gov)>; Chow, Alice <[chow.alice@epa.gov](mailto:chow.alice@epa.gov)>; Rinck, Todd <[Rinck.Todd@epa.gov](mailto:Rinck.Todd@epa.gov)>; Compther, Michael <[compther.michael@epa.gov](mailto:compther.michael@epa.gov)>; Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>; Davis, Michael <[Davis.Michael@epa.gov](mailto:Davis.Michael@epa.gov)>; Fallon, Gail <[fallon.gail@epa.gov](mailto:fallon.gail@epa.gov)>; Flagg, MichaelA <[Flagg.MichaelA@epa.gov](mailto:Flagg.MichaelA@epa.gov)>; Hall, Chris <[Hall.Christopher@epa.gov](mailto:Hall.Christopher@epa.gov)>  
Cc: Payton, Richard <[Payton.Richard@epa.gov](mailto:Payton.Richard@epa.gov)>; Brown, Ethan <[Brown.Ethan@epa.gov](mailto:Brown.Ethan@epa.gov)>; Papp, Michael <[Papp.Michael@epa.gov](mailto:Papp.Michael@epa.gov)>; Wells, Benjamin <[Wells.Benjamin@epa.gov](mailto:Wells.Benjamin@epa.gov)>; Naess, Liz <[Naess.Liz@epa.gov](mailto:Naess.Liz@epa.gov)>; Rice, Joann <[Rice.Joann@epa.gov](mailto:Rice.Joann@epa.gov)>

Subject: URGENT ACTION – Invalidation of Ozone data in AQS due to QC issues

Importance: High

Good morning:

As you all are aware by now, we have recently identified ambient ozone data in AQS that was reported during periods of time when 1-point QC checks were outside the critical criteria in the QA Handbook and contained in approved monitoring organization QAPP's. We are currently in the middle of the ozone designations process and it is important that we maintain the integrity of that process. It is critical that we base our designations decisions on defensible data for areas both attaining and not attaining the standard. To this end, we believe that the data identified as outside these critical criteria be null coded in AQS so that the underlying design values supporting the designations process are based on valid data. We understand that there is limited time to complete this work due to the tight timelines for designations. Therefore, this process has been divided into two phases as explained below:

Phase 1:

These are high priority monitors whose 2014-2016 design value would change or become incomplete due to the data invalidations. Attached to this message is an Excel table that explicitly lists the monitors and periods of time for when

ozone data should be null coded (coded as Phase 1). We ask that you communicate with the affected monitoring organizations to ensure that these data are invalidated in AQS no later than May 1, 2017 (we will be doing our design value pull from AQS on the morning of May 2). Luckily this first phase only affects about 80 monitors, as some states have already begun invalidating their data.

#### Phase 2:

The list of the remaining monitors that will have similar data invalidation actions are coded as Phase 2 in the Excel table. These monitors have a less immediate impact on designations so are being included in the Phase 2 action. We recognize that this phase affects a larger number of monitors, therefore we are providing more time to invalidate this data. Please work with your monitoring organizations to complete this exercise by August 1, 2017.

Additional details on the Excel table: The attachment contains three tabs: (1) Data Invalidations – which contains specific information for the data invalidation, (2) 2014-2016 Design Values – design values before and after (“a” added to column heading) data invalidations, and (3) Failed QC Checks – details on the actual QC checks. Please contact Liz Naess (Ben Wells is out of the office until 4/24/17) or Mike Papp with questions on the data retrieval (Liz/Ben) or associated QA issues (Mike).

For additional background information on this quality assurance issue, please refer to the attached memo entitled “Ozone 1-point QC Check Data Quality Evaluation and Next Steps”.

We will be checking in periodically during our monthly conference calls to answer any questions and assess progress on this action. Thank you for your prompt attention to this matter.

Lewis Weinstock (Ambient Air Monitoring Group and Liz Naess (Air Quality Analysis Group)

Air Quality Assessment Division - Mail Code C304-06 | Office of Air Quality Planning & Standards | U.S. Environmental Protection Agency | Research Triangle Park, NC 27711 |